

## TOLUENE

### SECTION 1. IDENTIFICATION

<b>Product Identifier</b>	TOLUENE
<b>Other Means of Identification</b>	13-271, 13-274, 13-278, 13-278EXP, 83-274, 83-279, 83-279SHER, 53-275, 53-274
<b>Other Identification</b>	Toluol
<b>Recommended Use</b>	Please refer to Product label.
<b>Restrictions on Use</b>	None known.
<b>Manufacturer/Supplier Identifier</b>	Recochem Inc., 850 Montee de Liesse, Montreal, QC, H4T 1P4, Compliance and Regulatory Department, 905-878-5544, www.recochem.com
<b>Emergency Phone No.</b>	CANUTEC, 613-996-6666, 24 Hours
<b>SDS No.</b>	1633

### SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

#### Classification

Flammable liquid - Category 2; Skin irritation - Category 2; Reproductive toxicity - Effects on or via lactation; Specific target organ toxicity (single exposure) - Category 3; Specific target organ toxicity (repeated exposure) - Category 2; Aspiration hazard - Category 1

#### Label Elements



Signal Word:  
Danger

#### Hazard Statement(s):

H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H362	May cause harm to breast-fed children.
H373	May cause damage to organs through prolonged or repeated exposure.

#### Precautionary Statement(s):

##### Prevention:

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.

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- P240 Ground and bond container and receiving equipment.  
 P241 Use explosion-proof electrical, ventilating, and lighting equipment.  
 P242 Use only non-sparking tools.  
 P243 Take precautionary measures against static discharge.  
 P260 Do not breathe fume, mist, vapours, spray.  
 P263 Avoid contact during pregnancy and while nursing.  
 P264 Wash hands and skin thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product.  
 P271 Use only outdoors or in a well-ventilated area.  
 P280 Wear protective gloves/eye protection/face protection.

Response:

- P301 + P310 IF SWALLOWED: Immediately call a POISON CENTRE or doctor.  
 P331 Do NOT induce vomiting.  
 P312 Call a POISON CENTRE or doctor if you feel unwell.  
 P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.  
 P312 Call a POISON CENTRE or doctor if you feel unwell.  
 P332 + P313 If skin irritation occurs: Get medical advice or attention.  
 P362 + P364 Take off contaminated clothing and wash it before reuse.  
 P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P312 Call a POISON CENTRE or doctor if you feel unwell.  
 P370 + P378 In case of fire: Use appropriate foam, carbon dioxide, dry chemical powder, water spray or fog to extinguish.

Storage:

Store in a well ventilated place. Keep cool. Keep container tightly closed. Store locked up.

Disposal:

Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

**Other Hazards**

None known.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers	Other Names
Toluene	108-88-3	90-100		

**Notes**

The specific chemical identity and/or exact percentage of composition (concentration) has been withheld as a trade secret.

### SECTION 4. FIRST-AID MEASURES

**First-aid Measures**

**Inhalation**

Take precautions to prevent a fire (e.g. remove sources of ignition). Remove source of exposure or move to fresh air. Call a Poison Centre or doctor if you feel unwell.

**Skin Contact**

Avoid direct contact. Wear chemical protective clothing if necessary. Take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Quickly and gently blot or brush away excess chemical. Wash gently and

thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes. Call a Poison Centre or doctor if you feel unwell. If skin irritation occurs, get medical advice or attention.

#### **Eye Contact**

Avoid direct contact. Wear chemical protective gloves if necessary. Quickly and gently blot or brush chemical off the face. Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. Remove contact lenses, if present and easy to do. Take care not to rinse contaminated water into the unaffected eye or onto the face. If eye irritation persists, get medical advice or attention.

#### **Ingestion**

Do not induce vomiting. Never give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. If vomiting occurs naturally, lie on your side in the recovery position. Rinse mouth with water again. Immediately call a Poison Centre or doctor.

#### **First-aid Comments**

If exposed or concerned, get medical advice or attention.

#### **Most Important Symptoms and Effects, Acute and Delayed**

No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

#### **Immediate Medical Attention and Special Treatment**

##### **Target Organs**

Auditory (hearing) system, eyes, kidneys, liver, nervous system, skin.

##### **Special Instructions**

No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

##### **Medical Conditions Aggravated by Exposure**

Dermatitis.

## **SECTION 5. FIRE-FIGHTING MEASURES**

### **Extinguishing Media**

#### **Suitable Extinguishing Media**

Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog.

#### **Unsuitable Extinguishing Media**

None known.

### **Specific Hazards Arising from the Product**

Highly flammable liquid and vapour. Can ignite at room temperature. Releases vapour that can form explosive mixture with air. Can be ignited by static discharge. Can accumulate static charge by flow, splashing or agitation. May travel a considerable distance to a source of ignition and flash back to a leak or open container. See Section 9 (Physical and Chemical Properties) for flash point and explosive limits. May accumulate in hazardous amounts in low-lying areas especially inside confined spaces, resulting in a fire hazard. Closed containers may rupture violently when heated releasing contents.

In a fire, the following hazardous materials may be generated: very toxic carbon monoxide, carbon dioxide; toxic, flammable aldehydes; irritating chemicals; toxic chemicals.

### **Special Protective Equipment and Precautions for Fire-fighters**

Review Section 6 (Accidental Release Measures) for important information on responding to leaks/spills. See Skin Protection in Section 8 (Exposure Controls/Personal Protection) for advice on suitable chemical protective materials.

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

### **Personal Precautions, Protective Equipment, and Emergency Procedures**

Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Evacuate downwind locations. Do not touch damaged containers or spilled product unless wearing appropriate protective

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equipment. Use the personal protective equipment recommended in Section 8 of this safety data sheet. Increase ventilation to area or move leaking container to a well-ventilated and secure area. Eliminate all ignition sources. Use grounded, explosion-proof equipment. May accumulate in hazardous amounts in low-lying areas especially inside confined spaces, if ventilation is not sufficient. Distant ignition and flashback are possible. Monitor area for flammable or explosive atmosphere.

#### Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

#### Methods and Materials for Containment and Cleaning Up

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

## SECTION 7. HANDLING AND STORAGE

#### Precautions for Safe Handling

Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

#### Conditions for Safe Storage

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Toluene	20 ppm A4	Not established	100 ppm	150 ppm		

#### Appropriate Engineering Controls

General ventilation is usually adequate. For large scale use of this product: do not allow product to accumulate in the air in work or storage areas, or in confined spaces. Use local exhaust ventilation, if general ventilation is not adequate to control amount in the air. Use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas where this product is used and stored. Control static electricity discharges which includes bonding of equipment to ground. Use only non-combustible, compatible materials for walls, floors, ventilation system, air cleaning devices, pallets, shelving. Provide eyewash and safety shower if contact or splash hazard exists.

#### Individual Protection Measures

##### Eye/Face Protection

Wear chemical safety goggles.

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### Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

### Respiratory Protection

Not usually required when working with small quantities. For non-routine or emergency situations: wear a NIOSH approved air-purifying respirator with an appropriate cartridge.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### Basic Physical and Chemical Properties

Appearance	Clear colourless liquid.
Odour	Aromatic
Odour Threshold	0.16 - 37 ppm (0.6 - 138.9 mg/m <sup>3</sup> ) (detection)
pH	Not available
Melting Point/Freezing Point	-95 °C (-139 °F) (melting); -95 °C (-139 °F) (freezing)
Initial Boiling Point/Range	110.6 °C (231.1 °F)
Flash Point	4 °C (39 °F) (closed cup)
Evaporation Rate	2.0 (n-butyl acetate = 1)
Flammability (solid, gas)	Not applicable
Upper/Lower Flammability or Explosive Limit	7.1% (upper); 1.2% (lower)
Vapour Pressure	21.98 mm Hg (2.93 kPa) at 20 °C
Vapour Density (air = 1)	3.18
Relative Density (water = 1)	0.865 - 0.870 at 20 °C
Solubility	Slightly soluble (0.1-1 g/100 mL) in water; Soluble in all proportions in common organic solvents.
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	480 °C (896 °F)
Decomposition Temperature	Not available
Viscosity	0.676 mm <sup>2</sup> /s at 20 °C (kinematic); 0.586 mPa.s at 20 °C (dynamic)
Other Information	
Physical State	Liquid
Molecular Weight	92.13

## SECTION 10. STABILITY AND REACTIVITY

### Reactivity

None known.

### Chemical Stability

Normally stable.

### Possibility of Hazardous Reactions

None known.

### Conditions to Avoid

Open flames, sparks, static discharge, heat and other ignition sources. Temperatures above 3.0 °C (37.4 °F)

### Incompatible Materials

Increased risk of fire and explosion on contact with: strong oxidizing agents (e.g. perchloric acid).  
Reacts explosively with: nitric acid.

### Hazardous Decomposition Products

Very toxic carbon monoxide, carbon dioxide; very toxic, flammable aldehydes.

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## SECTION 11. TOXICOLOGICAL INFORMATION

### Likely Routes of Exposure

Inhalation.

### Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Toluene	12500-28800 mg/m <sup>3</sup> (rat) (4-hour exposure)	> 5580 mg/kg (rat)	12125 mg/kg (rabbit)

LC50: Not applicable.

LD50 (oral): Not applicable.

LD50 (dermal): Not applicable.

### Skin Corrosion/Irritation

Animal tests show moderate or severe irritation.

### Serious Eye Damage/Irritation

Human experience and animal tests show mild irritation.

### STOT (Specific Target Organ Toxicity) - Single Exposure

#### Inhalation

Causes depression of the central nervous system. Symptoms may include headache, nausea, dizziness, drowsiness and confusion. A severe exposure can cause unconsciousness.

#### Skin Absorption

May be harmful based on limited evidence.

#### Ingestion

May be harmful based on human experience. Depression of the central nervous system. Symptoms may include headache, nausea, dizziness, drowsiness and confusion. A severe exposure can cause unconsciousness. Can cause effects as described for inhalation.

### Aspiration Hazard

Can cause lung damage if aspirated based on human experience. Death can result.

### STOT (Specific Target Organ Toxicity) - Repeated Exposure

May cause If inhaled: harmful effects on the hearing (auditory) system. Exposure to this chemical and loud noise may cause greater hearing loss than expected from noise exposure alone.

May cause If inhaled: at high concentrations effects on the central nervous system. Symptoms may include restlessness, reduced ability to think, muscle tremors, memory loss and personality changes. "organic solvent syndrome".

Causes Following skin contact: dermatitis. Symptoms may include dry, red, cracked skin (dermatitis).

May cause damage to organs based on animal studies. If inhaled: at high concentrations harmful effects on the kidneys, harmful effects on the liver.

### Respiratory and/or Skin Sensitization

Not a respiratory sensitizer. Not a skin sensitizer.

### Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Toluene	Group 3	A4	Not Listed	Not Listed

Key to Abbreviations

A3 = Animal carcinogen.

Group 3 = Not classifiable as to its carcinogenicity to humans.

A4 = Not classifiable as a human carcinogen.

Group 1 = Carcinogenic to humans.

### Reproductive Toxicity

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**Development of Offspring**

Animal studies show effects on the offspring. If inhaled: at high concentrations known to cause: birth defects.

**Sexual Function and Fertility**

Conclusions cannot be drawn from the limited studies available.

**Effects on or via Lactation**

Can transfer to mother's milk.

**Germ Cell Mutagenicity**

May be mutagenic based on limited evidence.

**Interactive Effects**

No information was located.

**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Chronic Aquatic Toxicity**

Chemical Name	NOEC Fish	EC50 Fish	NOEC Crustacea	EC50 Crustacea
Toluene	5.44 mg/L (Oncorhynchus mykiss (rainbow trout))		Not available	

**Persistence and Degradability**

No information was located.

**Bioaccumulative Potential**

No information was located.

**Mobility in Soil**

No information was located.

**Other Adverse Effects**

There is no information available.

**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal Methods**

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**SECTION 14. TRANSPORT INFORMATION**

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	1294	TOLUENE	3	II
US DOT	1294	TOLUENE	3	II
IMO (Marine)	1294	TOLUENE	3	II

**Environmental Hazards**

Potential Marine Pollutant

**Special Precautions**

Please note: In containers of 1 L (1Kg) this product is qualified as a "consumer commodity"

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ORM-D under DOT  
In containers of 1 L (1Kg) capacity or less this product is classified as a "Limited Quantity" "Consumer Commodity" under TDG regulations.

## SECTION 15. REGULATORY INFORMATION

### Safety, Health and Environmental Regulations

#### Canada

##### Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

All ingredients are listed on the DSL/NDSL.

#### USA

##### Toxic Substances Control Act (TSCA) Section 8(b)

All ingredients are listed on the TSCA Inventory.

##### Additional USA Regulatory Lists

California Proposition 65.

## SECTION 16. OTHER INFORMATION

<b>SDS Prepared By</b>	Compliance and Regulatory Department
<b>Phone No.</b>	905-878-5544
<b>Date of Preparation</b>	January 08, 2016
<b>Date of Last Revision</b>	September 12, 2019
<b>Revision Indicators</b>	The following SDS content was changed on September 24, 2018: SECTION 2. HAZARD IDENTIFICATION; Classification; SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES; Molecular Weight; Melting Point; Freezing Point; SECTION 11. TOXICOLOGICAL INFORMATION; Reproductive Toxicity. The following SDS content was changed on February 06, 2019: SECTION 14. TRANSPORT INFORMATION; Shipping Information. The following SDS content was changed on March 05, 2019: SECTION 1. IDENTIFICATION; Other Means of Identification. The following SDS content was changed on September 12, 2019: SECTION 1. IDENTIFICATION; Other Means of Identification.
<b>Additional Information</b>	We are committed to uphold the Industry Consumer Ingredient Communication Voluntary Initiative. Please send us your request by visiting our website at <a href="http://www.recochem.com">www.recochem.com</a> .  Ingredients present (intentionally added ingredients) at a concentration of greater than one percent (1%) shall be listed in descending order of predominance. Ingredients present at a concentration of not more than one percent shall be listed but may be disclosed without respect to order of predominance.
<b>Disclaimer</b>	Notice to reader: To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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